

# TRINOX

The Stainless Steel Trocar System



Big on Detail



TRINOX is the logical successor to the established XION trocar system with magnetic flap valve. In response to the increased demand for cost-efficiency and automatic processing of instruments, TRINOX was completely redesigned in stainless steel and is therefore almost indestructible.

More than 10 years of experience gained from the progressive development of XION trocar systems in minimally invasive surgery have been channelled into the constructive revision of the system.

## Features

- The variety of available diameters and lengths, the different trocar versions and the extensive range of accessories satisfy all needs.
- Functional, light weight and safe. All necessary sizes and versions are available as well as the accessories which make up a complete trocar system.
- Logical construction, clear labelling and easy dismantling into few components ensure simple and effective preparation with all cleaning and sterilisation methods.
- Moderate purchase price, effective and cost-saving preparation, durable and long lasting use. Easily exchanged between departments due to the modular system configuration which can be used with a variety of accessories. Good for your budget and for the environment.

## TRINOX is

- more light weight
- easier to handle
- more robust
- more durable

than all previous reusable trocars.



## Available models



- For instrument diameters of 2.7 mm to 16mm, available in many different versions.
- Standard effective lengths: 70 mm, 100 mm, 120 mm, 150 mm
- Trocar sleeves with or without gas tap or LuerLock connection
- Sharp trocars with conical or pyramidal tip or as shielded version with protection against perforation.
- Blunt obturators for mini laparotomy.



## Trocar with internal safety shield to prevent unintentional perforation

On puncturing the abdominal wall, the pressure exerted by the tissue forces back the spring-loaded trocar insert and allows the trocar to perforate. As soon as the tip has entered the peritoneum, the insert again snaps forwards to cover the cutting portion of the tip. Only now will the full diameter of the broader, conical section of the trocar tip puncture the abdominal wall. Thus the protective effect of the covering the cutting edges of the trocar tip is effective at a much earlier stage than with other systems. The special cut of the trocar tip and the optimal adaptation to the trocar sleeve reduce the effort needed to puncture the abdominal wall. By these means, a more sensitive use of the instrument is possible - and the risk of unintentional perforation is minimised.

The trocar can be completely dismantled and effectively cleaned and sterilised. Trocars with internal safety shield to prevent unintentional perforation are available for all nominal diameters of the standard model (disk-type handle) or with an enlarged grip-type handle.





## Accessories

The existing accessory programme of the former aluminium trocar system is also suitable for the TRINOX System.

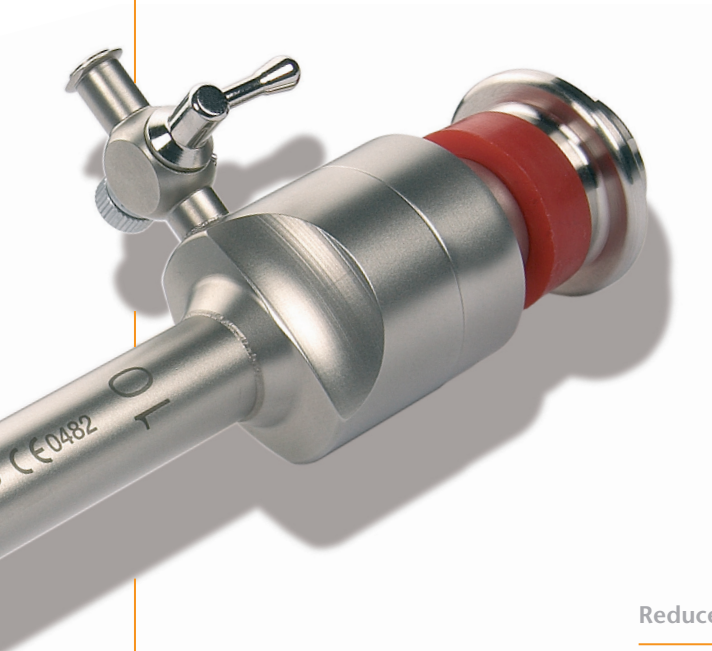
### Flap reducers

Flap reducers are clipped on the side of the valve units and remain in position during the entire operation. They are simply clicked onto the valve when needed.



### Reducer adapters

Use of the reducer adapters does not open the valve, so enabling instruments of different diameters to be changed without any loss of gas.



## Accessories



### Extraction sleeves

Extraction sleeves for instruments of different diameters allow tissue to be extracted safely through the open valve. As with the reducer adapters, their sizes can easily be recognised, both from the engraved legend and from the coding system on the handle.



### Dilatation set

A series of stainless steel dilatation sleeves permit 5.5 mm trocars to be replaced by larger diameter ones. To do this, the 5.5 mm trocar is removed after inserting the guide rod. Then trocar (fitted with the dilatation sleeve) is inserted over the guide rod, which itself serves as a retaining device.

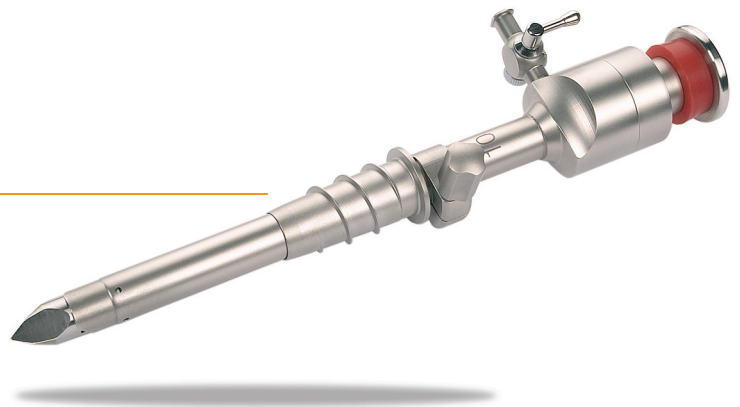
## Overview Trocars and Accessories

	2,7	3,5	5,5	8	10	11	13	16
Conical Tips	x	x	x	x	x	x	x	x
Pyramidal Tips	x	x	x	x	x	x	x	x
Shielded Tips	x	x	x	x	x	x	x	x
Obturator			x	x	x	x	x	x
Reducers				x	x	x	x	x
Extraction Sleeves				x	x	x	x	x
Dilatation Sleeves					x	x		
Fixation Sleeves			x	x	x	x	x	
HASSON Cones			x	x	x	x	x	



### Fixation sleeves

The slightly conical thread allows the trocar sleeve to be optimally fixed in the abdominal wall. The materials chosen, the simple design and the fact that the unit can be completely dismantled offer the best conditions for the effective preparation of the instrument.



### HASSON Cones

The stainless steel cone with thread holder permits the trocar sheath to be securely fixed during mini-laparotomy. The cone is fixed in the incision spot under tension, making use of the previously made fascial stitches, and then closes the incision spot gas-tight. Once the operation has been carried out, the fascial stitches made at the beginning are used to close the incision spot.

The HASSON Cone can be completely dismantled and easily cleaned respectively sterilised.

